

## LCP128 Dimming & Switching System



LCP128 Panel

### System Overview

LCP128 is a combination dimming and switching system that provides a complete lighting control solution. The system consists of panels and control station devices. An integrated astronomical time clock provides system automation capability.

### System Features

- 32 global lighting scenes and off.
- Connect up to 8 power panels for up to 128 dimmed/switched outputs.
- Connect up to 32 wallstations or control devices for multiple points of control.
- Entire system is programmed using the LCD controller mounted in the panel.
- Astronomical time clock provides automated selection of lighting scenes.
- Works directly with incandescent, magnetic low voltage, reverse-phase electronic low voltage, neon, Lutron Tu-Wire™ and switched load types.
- Works with DSI, DALI, and 0-10V dimming ballasts using Ten Volt Modules in the panel.
- Motor modules are also available.
- Panel may be surface or recess mounted.
- Feed-through or branch circuit breaker panels are available.
- Panel is pre-wired and pre-tested.

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## LCP128 Controller



LCP128 Controller

### Overview

Lighting control may be automated by using the astronomical time clock integrated into the LCP128 controller. The controller has an LCD screen for easy programming.

### Features

- Controller LCD screens may be displayed in English, Spanish, German, French, Portuguese, Dutch, Italian, and Simplified Chinese.
- LCD interface simplifies scene, time clock event, and control station programming.
- Time clock events automatically recall presets at a specific time of day or at an offset from sunrise or sunset.
- Up to 500 total events are programmable within 7 daily schedules and 40 holiday schedules.
- Holiday schedules are programmable to run once or repeat up to ninety days in a row.
- Two integrated Contact Closure Inputs provide an interface with occupancy sensors or Building Management Systems.
- Select system location from a built-in city database or by entering latitude and longitude.
- Time clock is battery backed; time and event settings are remembered even after power failures.

<b>Job Name:</b>	<b>Model Numbers:</b>
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## Specifications

### Standards

- CE

### Power

- Input power: 230V (CE), 220-240V (non-CE). All voltages 50/60 Hz, phase-to-neutral.
- Branch Circuit Breakers (if applicable): IEC-rated thermal magnetic. AIC rating: 230V (CE) — 6,000 A 220-240V (non-CE) — 6,000 A
- Lightning strike protection: meets ANSI/IEEE standard 62.41-1980. Can withstand surges of up to 6000 V and up to 3000 A.
- 10-year power failure memory: automatically restores lighting to scene selected prior to power interruption.
- RTISS™ filter circuit technology compensates for incoming line voltage variations: no visible flicker with +/-2% change in RMS voltage/cycle and +/-2% Hz change in frequency/second.
- Softswitch™ arcless relay technology featured in every 16A switched circuit.

### Lighting Sources/Load Types

- Incandescent (Tungsten)/Halogen
- Magnetic Low Voltage Transformer
- Lutron Tu-Wire™
- Neon
- HID (full-conduction non-dim basis only)
- Switched
- DSI, DALI, and 0-10V dimming ballasts using Ten Volt Modules in the panel.
- Motor
- Electronic Low Voltage Transformer

### Physical Design

- Enclosure: NEMA-Type 1, IP-20 protection; #16 U.S. Gauge Steel. Indoors only.
- Weight: 80 lb. (37 kg).

### Mounting

Surface mount or recess mount between 16 in. (40 cm) studs.

### Environment

32-104° F (0-40° C). Relative humidity less than 90% non-condensing.

### Wiring

- Internal: prewired by Lutron.
- System communications: Low-voltage Class 2 (PELV) wiring connects dimming panels to wallstations.
- Line (mains) voltage: Feed and load wiring only. No other wiring or assembly required.

### Dimming Modules

- 4-Output Dimming Modules:
- Each Dimming Module can control a fully loaded electrical circuit (16 A max.), with four dimming outputs per Module.

### Switching Modules

- 4 Switched circuits (relays) per Module.
- Softswitch relay is rated for 16A continuous use.
- Patented Softswitch circuit eliminates arcing at mechanical contacts when loads are switched. Extends relay life to an average of 1,000,000 cycles (on/off) for resistive, capacitive or inductive sources.
- Relay is mechanically held.

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## Specifications (continued)

### LCP128 Controller

- Configures entire LCP128 System.
- Two low-voltage (15-24 VDC) contact closure inputs, momentary or maintained, pull-up or pull-down.
- Emergency sensing.
- Astronomical Time Clock.
- Digital Control Link.
- Mounted inside LCP128 panel.

### Astronomical Time Clock

- Capable of up to 500 events.
- 7 daily schedules and 40 holiday schedules are available.
- 25 events per day.
- Holiday events are programmable one year in advance.
- Holiday schedules are programmable to run for up to 90 days.
- ATC location programmable by built-in city database or by entering latitude and longitude, plus a sunrise or sunset offset to adjust for local geography.

### Control Station Devices

- One to seven button seeTouch™ wallstations.
- EOMX wallstations.
- Buttons are programmable to select scenes or patterns, toggle circuits, or activate delay-to-off.
- Buttons are programmed at the LCP128 controller.
- Key Switch control is also available.
- Controls are powered by and communicate via the LCP128 low-voltage communication link.
- OMX-CCO-8 integrates third party motorized window treatments or A/V equipment.
- OMX-AV interfaces with occupant or photo sensors.
- OMX-RS232 interfaces the LCP128 system to a PC, touchscreen, or building management system.
- See specific product specification sheets for further details.

<b>Job Name:</b>	<b>Model Numbers:</b>
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## seeTouch™ Wallstations

### Description

- Each seeTouch Wallstation features engraved, backlit buttons allowing quick and easy recall of lighting presets, even in low light conditions.
- Button functionality is fully programmable.

### Specifications

- Low-voltage type Class 2 (PELV)  
Operating voltage: 24 V.
- Meets IEC 801-2. Tested to withstand 15 kV electrostatic discharge without damage or memory loss.
- Faceplate snaps on with no visible means of attachment.
- Terminals accept up to two #18 AWG (1.0 mm<sup>2</sup>) wires typical.
- Environment: 32-104°F (0-40°C). Relative humidity less than 90% non-condensing.

### seeTouch Models

- Models available with one to seven buttons, with or without raise/lower.
- Use SO series model numbers.
- Available with all standard colors and engraving.

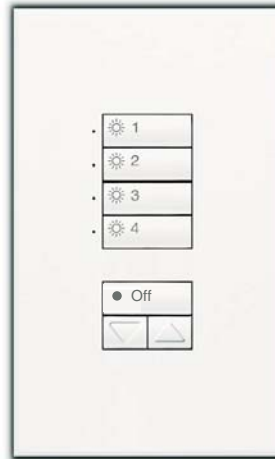
### Button Programming

- Each button may be programmed for scene selection, toggle, delay-to-off, raise, or lower functionality.
- Button programming can be used to provide specialized manual control of multiple areas.

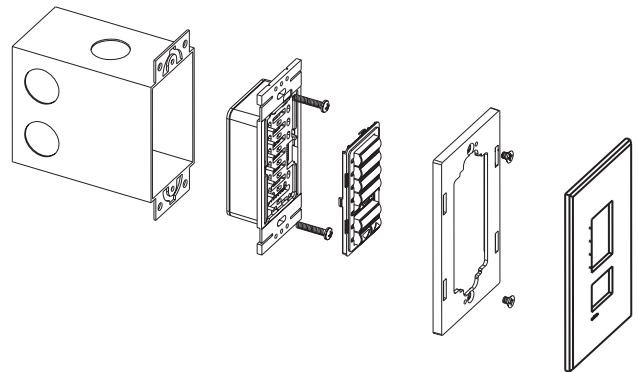
### Button Engraving

Custom engraving is available using button/wallplate replacement kits.

To order, contact Lutron Customer Service at 1-888-LUTRON1 (1-888-588-7661).



seeTouch Wallstation (SO-4SN-WH-EGN)

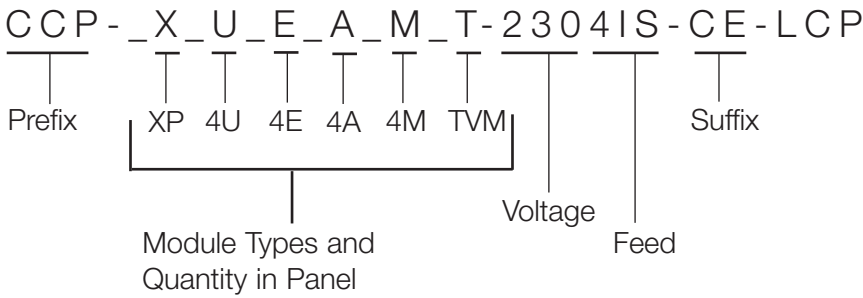


Typical wallbox dimensions: 3.74" (95 mm) high, 2.17" (55 mm) wide, 2.75" (70 mm) deep.

<p><b>Job Name:</b></p>	<p><b>Model Numbers:</b></p>
<p><b>Job Number:</b></p>	

## How to Build a LCP128 Panel Model Number

**Note:** The following information is given for general use only. Consult Lutron for available module combinations and assistance with specifying appropriate model numbers.



Example:

2U3E = Two 4U modules  
and Three 4E modules

### Module Types

- XP** = Four-Circuit Switching (Relay) Module
- 4U** = Four-Output Dimming Module
- 4E** = Four-Output Electronic Low Voltage Dimming Module
- 4A** = Four-Output Adaptive Dimming Module
- 4M** = Four-Output Motor Module
- TVM** = 0-10V Ballast Control Module

### Voltage:

- 230** for 230V (CE)
- 240** for 220-240V (non-CE)

### Feed:

- FT** = Feed-Through Panel (circuit breakers not included)
- 4IS** = 3 Phase 4 Wire Feed with Isolation Switch

### Suffix:

- CE** for 230V (CE)
- AU** for 220-240V (non-CE)

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## Model Numbers – 230V (CE), 220-240V (non-CE)

### LCP128 Combo Panels with Branch Circuit Breakers, No XP Switching Modules (Standard panels only)

Number of Modules	Feed Type	Feed Size (A)	Panel Size
2	1Ø, 2W	16A	Mini
3	3Ø, 4W	16A	Mini
4	3Ø, 4W	125 A	Standard
5	3Ø, 4W	125 A	Standard
6	3Ø, 4W	125 A	Standard
7	3Ø, 4W	125 A	Standard
8	3Ø, 4W	125 A	Standard

### LCP128 Combo Panels with Branch Circuit Breakers, With XP Switching Modules (Standard panels only)

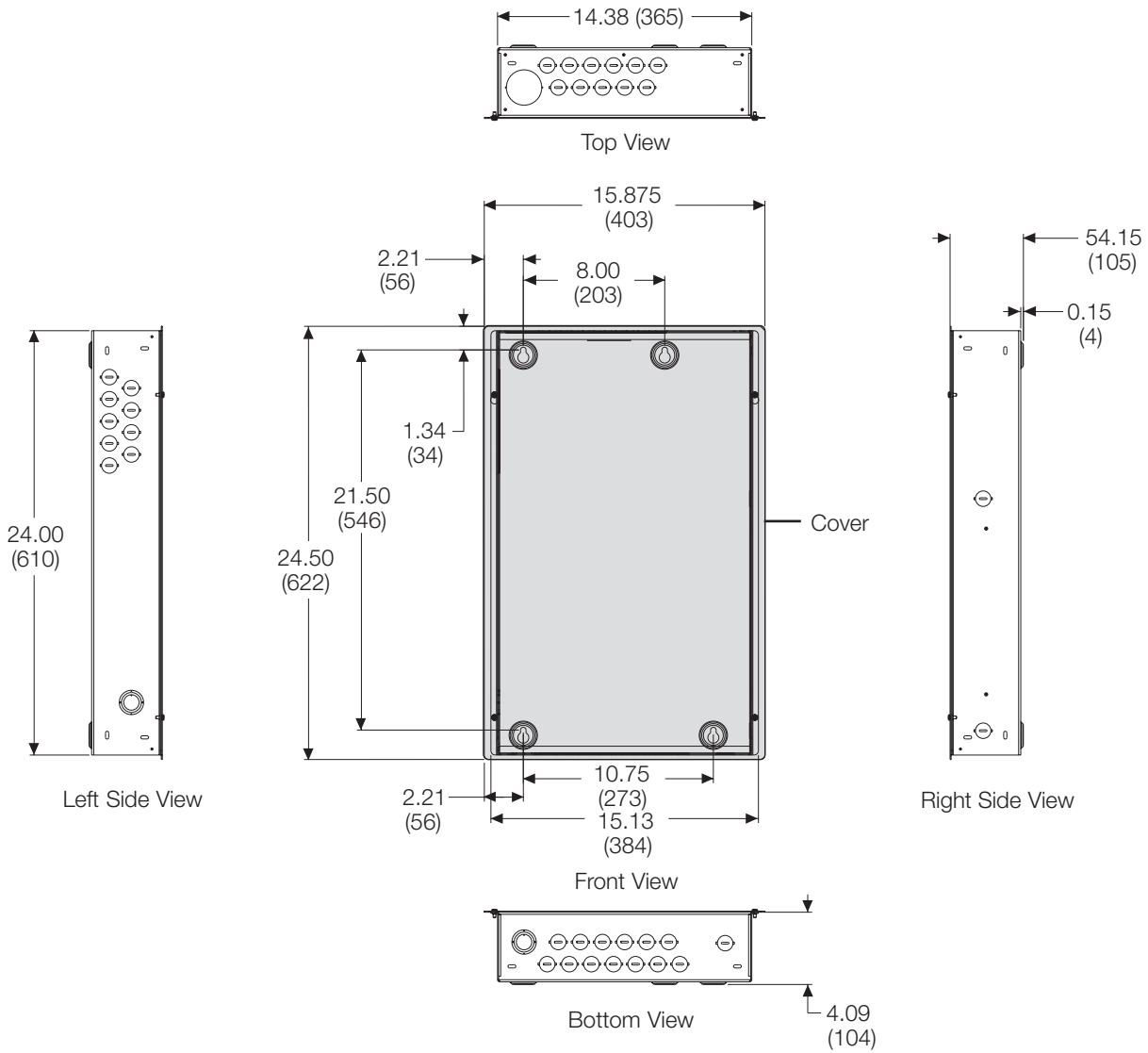
Number of Modules	Feed Type	Feed Size (A)	Panel Size
2	3Ø, 4W	125A	Standard
3	3Ø, 4W	125A	Standard
4	3Ø, 4W	125A	Standard
5	3Ø, 4W	125A	Standard
6	3Ø, 4W	125A	Standard

### Feed-Through LCP128 Combo Panels (Without branch circuit breakers)

Number of Modules	Feed Type	Feed Size (A)	Panel Size
2	1Ø, 2W	16A	Mini
3	1Ø, 2W	16A	Mini
4	1Ø, 2W	16A	Standard
5	1Ø, 2W	16A	Standard
6	1Ø, 2W	16A	Standard
7	1Ø, 2W	16A	Standard
8	1Ø, 2W	16A	Standard

<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

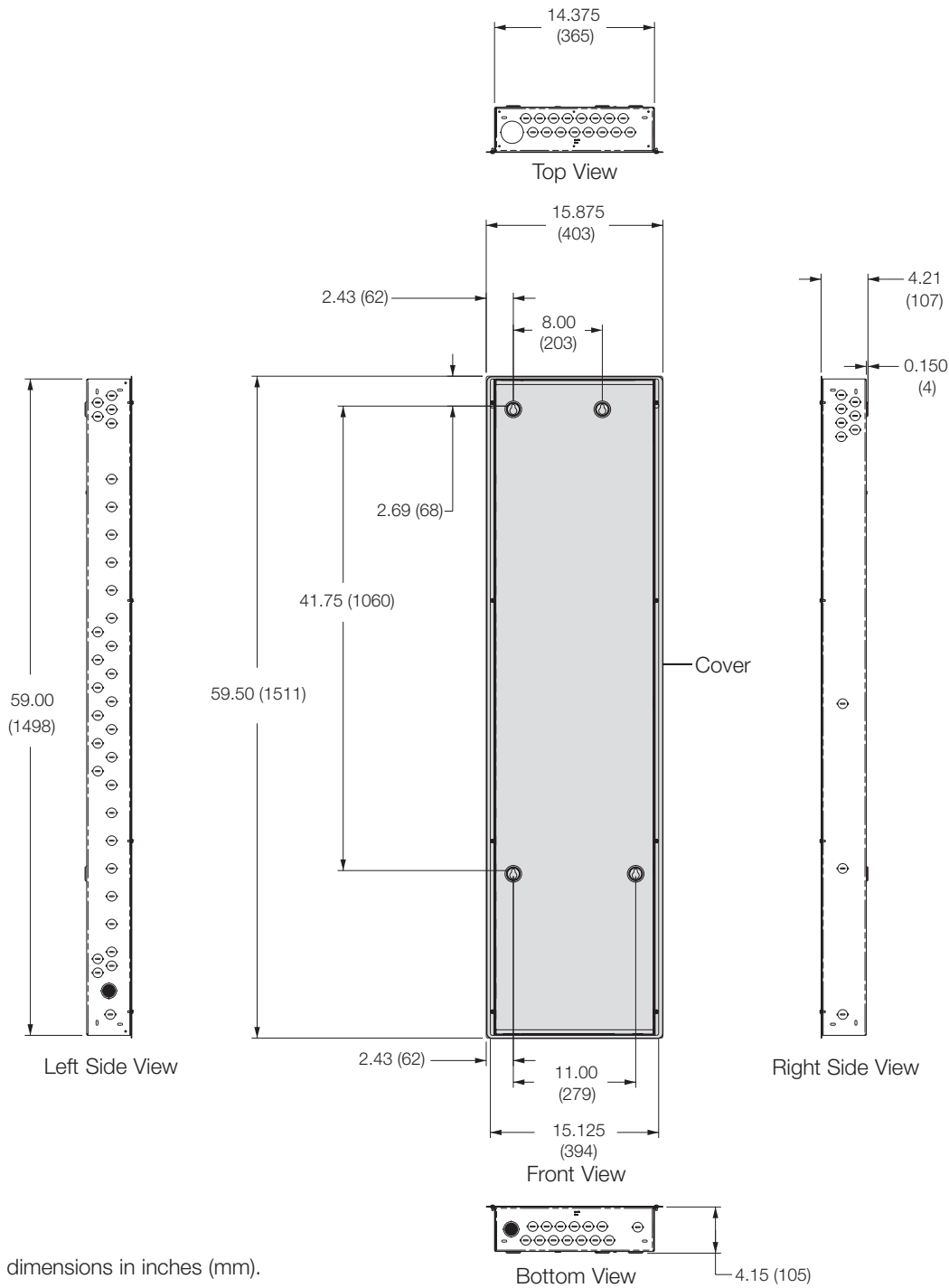
### Mini Panel Dimensions



All dimensions in inches (mm).

<p><b>Job Name:</b></p>	<p><b>Model Numbers:</b></p>
<p><b>Job Number:</b></p>	

### Standard-Size Panel Dimensions



All dimensions in inches (mm).

<p><b>Job Name:</b></p>	<p><b>Model Numbers:</b></p>
<p><b>Job Number:</b></p>	

## Panel Mounting

- Surface or recess mount indoors.
- Panel generates heat – mount only where ambient temperature is 32-104° F (0-40° C).
- This equipment is air-cooled. Do not block vents or the warranty will be void. Leave 12 in. (31cm) clearances in front of panel.
- Reinforce wall structure for weight and local codes.
- Mount panels where audible noise is acceptable. (Panels hum slightly and internal relays click).
- Mount panels so line (mains) voltage wiring (including load wiring) is at least 6 ft. (1.8 m) from sound or electronic equipment and wiring.
- Mount panel within 7° of true vertical.

### Surface Mounting

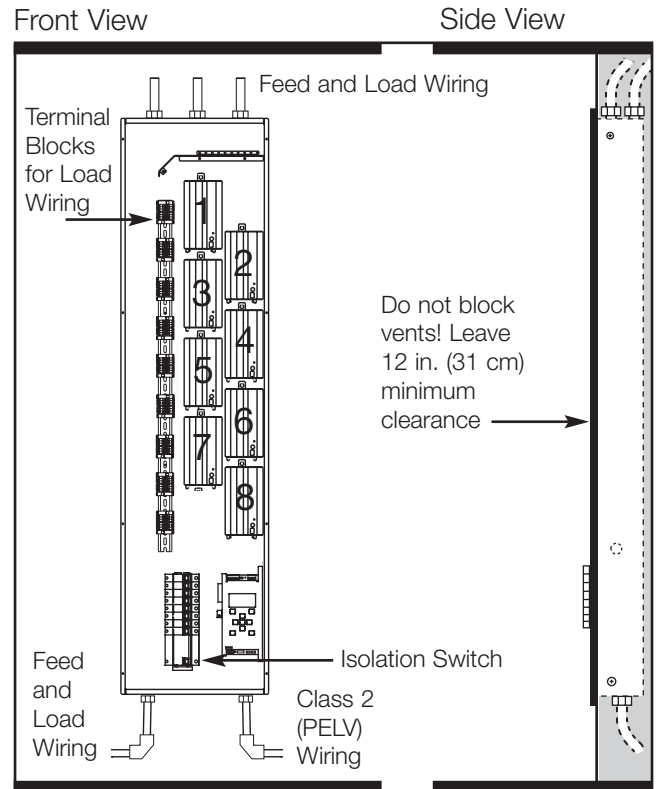
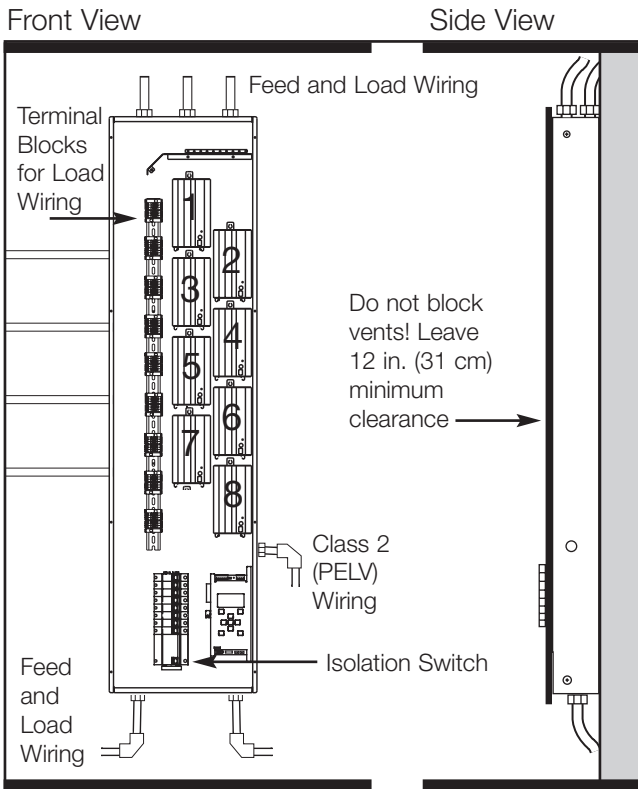
- Surface mounting keyholes accept 1/4 in. (6 mm) max. mounting bolts. This size is recommended.

### Panel Power Dissipation and Weight

Dimming Modules	Maximum BTUs/hour	Weight without packaging
2	170	35 lbs (16 kg)
3	250	37 lbs (17 kg)
4	330	55 lbs (25 kg)
5	410	57 lbs (26 kg)
6	490	59 lbs (27 kg)
7	570	61 lbs (28 kg)
8	650	63 lbs (29 kg)

### Recess Mounting

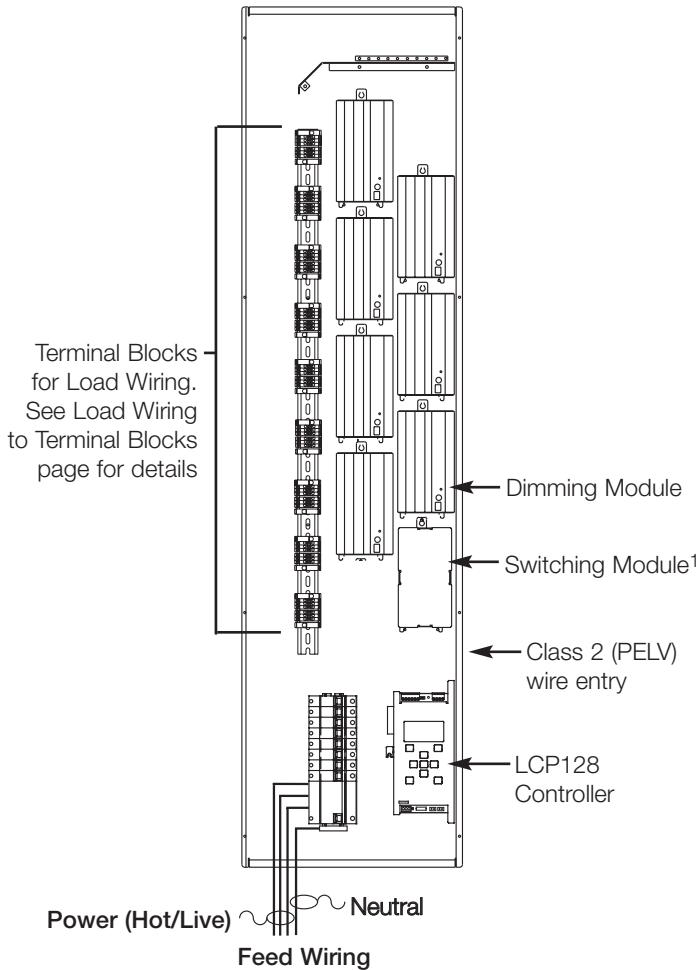
- Mount panel flush to 1/8 in. (3 mm) below finished wall surface.
- Front cover overlaps wall 3/4 in. (18 mm) on each side.



<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## Wiring Details – Isolation Switch with Breakers Panel 230V (CE), 220-240V (non-CE)

**Note:** Actual number and type of modules in panel may vary from example shown.



### Wire Sizes for Power Feed, Panels without XP Switching Modules

- **Power Feed:**  
#14 AWG (2.0mm<sup>2</sup>) to #2 AWG (35mm<sup>2</sup>)
- **Neutral Feed:**  
#14 AWG (2.0mm<sup>2</sup>) to #2 AWG (35mm<sup>2</sup>)

### Wire Sizes for Power Feed, Panels with XP Switching Modules

- **Power (Hot/Live):**  
#14 AWG (2.0mm<sup>2</sup>) to #2 AWG (35mm<sup>2</sup>)
- **Neutral:**  
#14 AWG (2.0mm<sup>2</sup>) to #2 AWG (35mm<sup>2</sup>)

### Wire Sizes for Load Wiring, All Models

- **Dimmed/Switched Hot (Live):**  
#14 AWG (2.0mm<sup>2</sup>) to #10 AWG (4.0mm<sup>2</sup>)
- **Load Neutral:**  
#14 AWG (2.0mm<sup>2</sup>) to #10 AWG (4.0mm<sup>2</sup>)

**Note:** See Load Wiring to Terminal Blocks page for load wiring details.

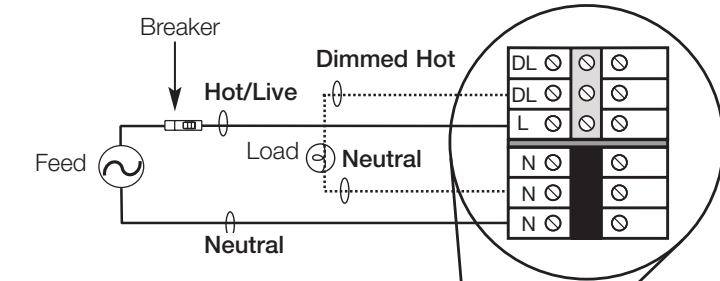
<sup>1</sup>Switching modules shown for identification purposes only. Breaker panels with switching modules require 4 breakers per module (not shown). Limitations on number of modules in panel may also apply.

<p><b>Job Name:</b></p>	<p><b>Model Numbers:</b></p>
<p><b>Job Number:</b></p>	

## Wiring Details – Feed-Through Panel – 230V (CE), 220-240V (non-CE)

**Note:** Actual number and type of modules in panel may vary from example shown.

### Typical Dimming/Switching Leg



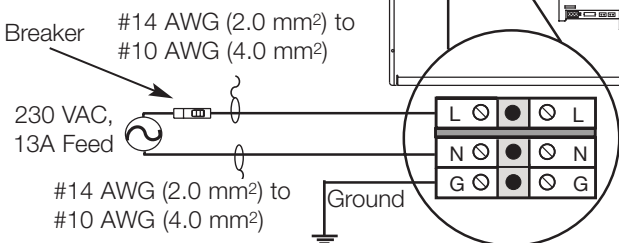
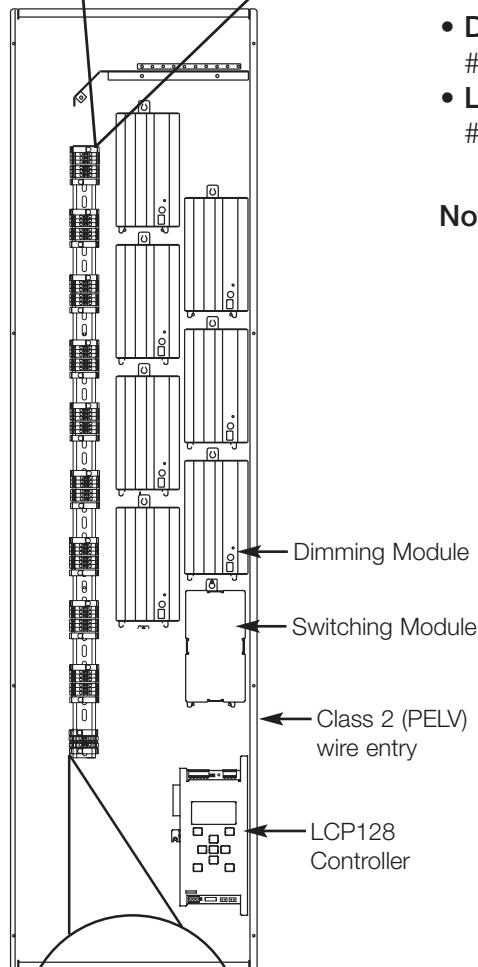
#### Wire Sizes for Power Feed, To Each Circuit

- **Power Feed:**  
#14 AWG (2.0mm<sup>2</sup>) to #10 AWG (4.0mm<sup>2</sup>)
- **Neutral Feed:**  
#14 AWG (2.0mm<sup>2</sup>) to #10 AWG (4.0mm<sup>2</sup>)

#### Wire Sizes for Load Wiring, From Each Output

- **Dimmed/Switched Hot (Live):**  
#14 AWG (2.0mm<sup>2</sup>) to #10 AWG (4.0mm<sup>2</sup>)
- **Load Neutral:**  
#14 AWG (2.0mm<sup>2</sup>) to #10 AWG (4.0mm<sup>2</sup>)

**Note:** See Load Wiring to Terminal Blocks page for load wiring details.



**Control Feed**  
An additional feed (230V on a dedicated breaker) is required for feed-through panels to power the low voltage control transformer.

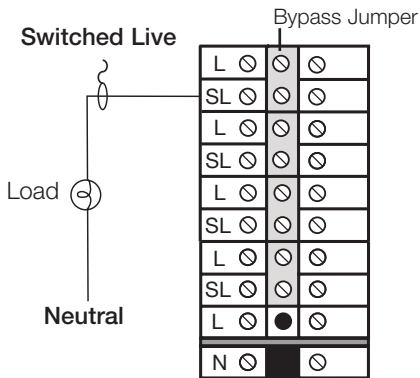
<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## Load Wiring to Terminal Blocks – 230V (CE), 220-240V (non-CE)

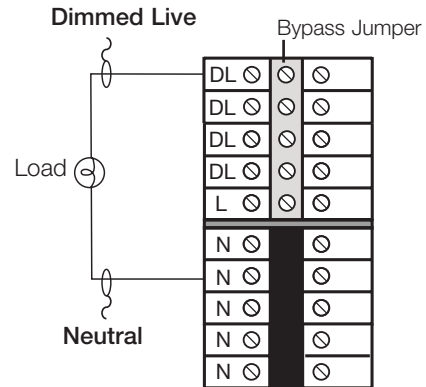
### Typical Dimming/Switching Leg Shown

**Note:** Do not remove bypass jumpers until after load wiring has been verified.

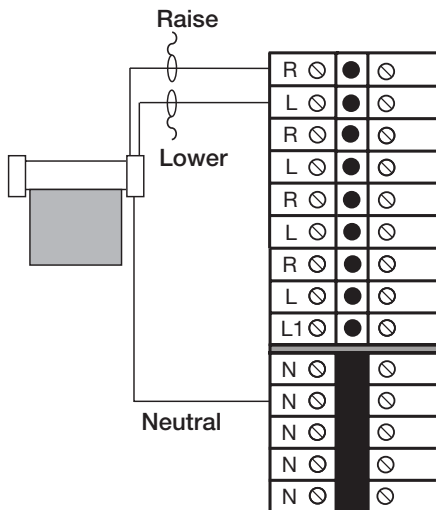
#### 4-Output Switching Module (XP)



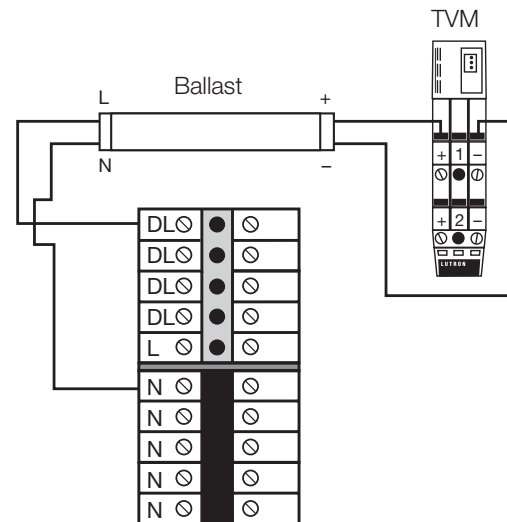
#### 4-Output Dimming Module (4U) 4-Output ELV Dimming Module (4E)



#### 4-Output Motor Module (4M)



#### 0-10V Ballast Control Module (TVM)



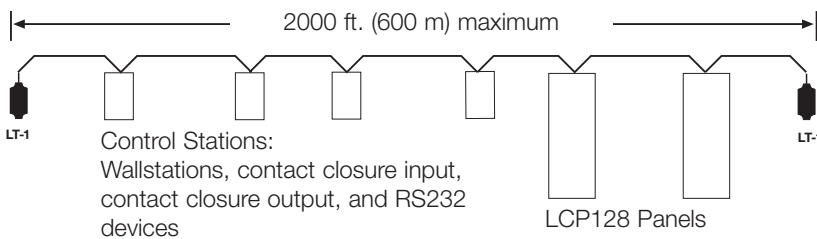
<b>Job Name:</b>	<b>Model Numbers:</b>
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## Class 2 (PELV) Wiring

The LCP128 system communicates to control stations using a Class 2 (PELV) low voltage link. Control stations include wallstations, contact closure input and output devices, and RS232 interfaces.

Wire the Class 2 (PELV) link according to the following guidelines:


- Link must be daisy chained.
- Must run in separate trough from line (mains) voltage.
- Link must be less than 2000 ft. (600 m) long.
- Make wire connections inside the wallbox and LCP128 panel.
- Install Link Terminators (LT-1) at the start and end of the Class 2 (PELV) daisy-chained link.
- The order of controls on the control link is not important.
- Use Lutron GRX-CBL-46L cable or equivalent.



**Note:** Link Terminators (LT-1) are required at the start and end of the LCP128 Class 2/PELV Link.

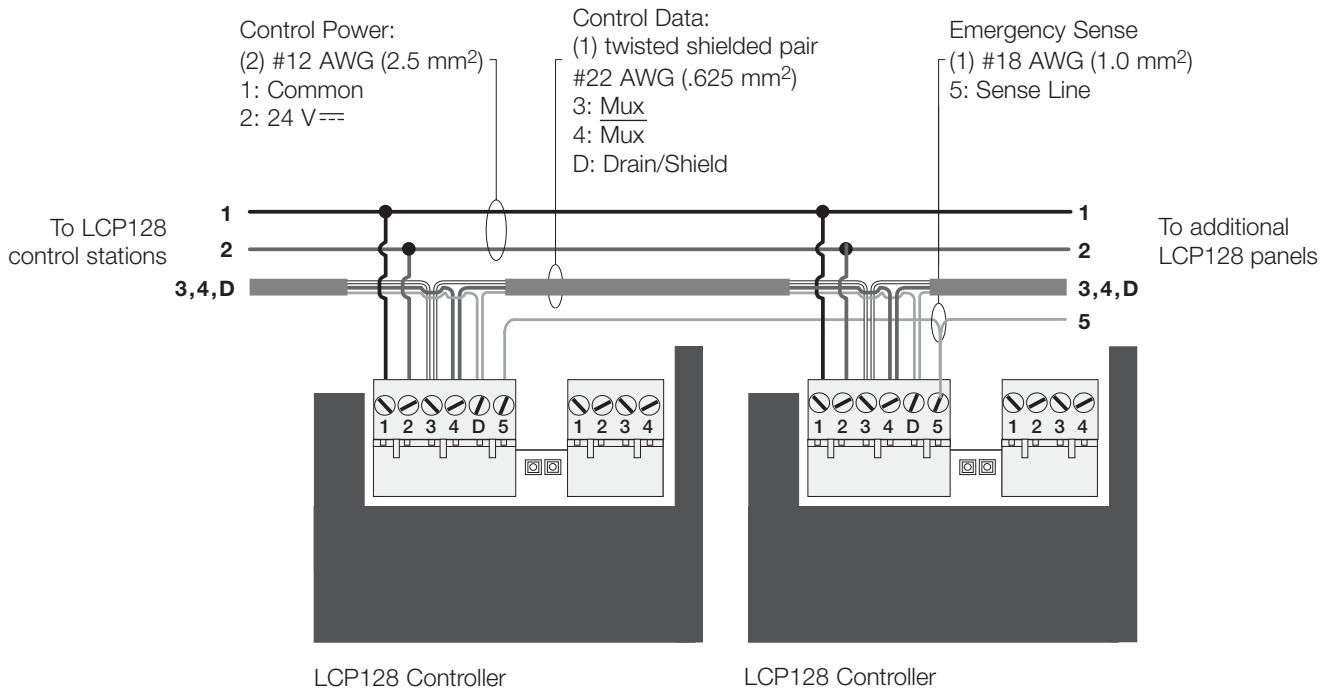
Maximum total length of the control link is 2,000 ft. This distance is based on proper shielding of the twisted/shielded pair, proper wire size, and the use of link terminators (LT-1) at each end of the link. If unapproved cable or smaller wire is used, control link length must be de-rated according to the following chart:

Terminal 1 & 2 Wire Sizes	Max. Control Link Length
#12 AWG	2000 ft. (600 m)
#14 AWG	1400 ft. (425 m)
#16 AWG	900 ft. (275 m)
#18 AWG	600 ft. (180 m)
2.5 mm <sup>2</sup>	450 m (1500 ft.)
1.0 mm <sup>2</sup>	200 m (650 ft.)

 **Notice!** If Link Terminators (LT-1) are not used or improper wiring topology is employed, the system will not communicate properly.

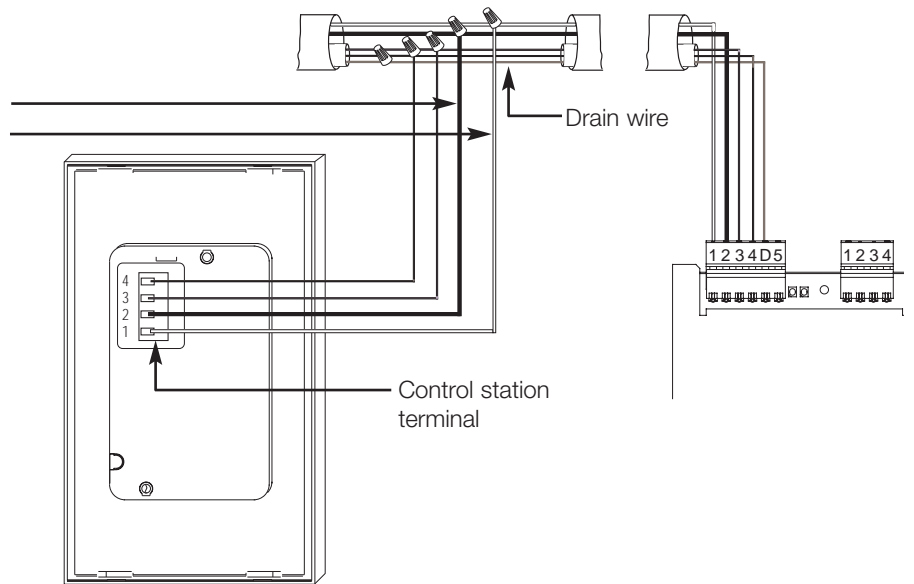
<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	

## Class 2 (PELV) Wiring Panel to Panel and Panel to Control Stations



### Wiring Notes:

- Use a wire connector to attach one #18 AWG wire for Common (terminal 1) and one #18 AWG wire for 24 V<sub>AC</sub> (terminal 2) from the Class 2 (PELV) link to the control. Two #12 AWG wires cannot both be terminated on the control station. Maximum wire length from link to control is 8 ft. (2.5 m).
- Only connect the Drain/Shield wire (bare copper) to terminal 'D' in LCP128 panels. Maintain the shield throughout the link but do not allow it to touch ground (earth) or wallstation circuitry.



<b>Job Name:</b>	<b>Model Numbers:</b>
<b>Job Number:</b>	